

REMARKS

The Examiner's communication dated June 26, 2003 has been received and carefully considered. In conformance with the applicable statutory requirements, this paper constitutes a complete reply and/or a bona fide attempt to advance the application to final action. Specifically, claims 1-16 have been cancelled, claims 17-28 have been amended and new claims 29-40 have been added. In addition, detailed arguments in support of patentability are presented. Reexamination and/or reconsideration of the application as amended are respectfully requested.

Summary of the Office Action

The Abstract of the disclosure is objected to because it has more than one paragraph.

Claims 17-28 stand rejected under 35 U.S.C. § 112, first paragraph.

Claims 19 and 25 stand rejected under 35 U.S.C. § 112, second paragraph.

Claims 17-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Hendry (U.S. Patent No. 4,389,358).

Claims 17-18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Oda (U.S. Patent No. 4,783,298).

Claims 17-18 and 23-24 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Uchiyama et al. (U.S. Patent No. 6,328,920).

Claims 17, 19, 20, 23 and 25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Lutz (U.S. Patent No. 5,849,168).

Claims 17-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Shima (U.S. Patent No. 4,115,506).

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hendry.

Claims 21-22 and 27-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lutz.

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Shima.

The Reference(s) of Record

Hendry discloses a molding method wherein a material S is injected into a first mold cavity 76 and a vertical press rapidly closes (col. 7, lines 57-61). A compressive force is exerted by the press to distribute the solid plastics material S uniformly throughout a closed cavity 76 to form or make a relatively thin, smooth liner, skin or shell L. (Col. 7, lines 57-67). A round plastic projection P is formed on an inner surface of the molded thin liner or shell L and represents excess plastic injected in the cavity 76. (Col. 8, lines 14-17). After the molding of the liner L, the mold parts 70,71 are separated and the liner L and moveable upper mold part 72 are transferred to a second molding station 116 (col. 8, lines 50-53). The upper mold part 72 and liner L are then combined with a stationary lower mold part 114 (Fig. 5). The shape of the lower mold part 116 creates a second cavity 118 between the lower mold part 114 and the liner L for receiving a foam material therein (col. 8, lines 54-68).

In Oda, SMC sheets X are placed on a molding surface 3a of a lower die 3 (col. 6, lines 59-65). An upper die 2 is driven downwardly towards the lower die 3 so as to form a mold cavity 6 between the molding surfaces 2a,3a while the SMC sheets X are compressed together to form a molded product Y (col. 7, lines 10-22). After formation of the molded product Y within the mold cavity 6, the upper die is moved to a predetermined distance upwardly and away from the lower die 3 so that a coating space 25 can be formed between the molded surface 2a and an upper surface Y'' of the molded product Y which is held in contact with the molding surface 3a. (Col. 7, lines 62-68). Substantially simultaneously with or immediately after the formation of the coating space 25 above the molding product Y, a reserve of coating material Z supplied under pressure from a mixer 17 is allowed to flow into the coating space 25 through a sprue 10a (col. 8, lines 5-18). After a predetermined amount of the coating material has been injected into the coating space 25, the upper die 2 is again moved towards the lower die 3 a predetermined distance enough to permit material Z within the coating space 25 to spread over the entire surface Y'' of the molded product Y thereby forming a coating layer of predetermined thickness (col. 8, lines 20-26).

Uchiyama discloses a method wherein injection molding and injection compression molding are combined (col. 1, lines 11-14). More specifically, after injection of a first quantity of plastic 20 into a mold 10, the mold 10 is opened slightly (col. 3, lines 24-26). A quantity of a second plastic material 28 is then injected into the opened mold to form a second layer 30 of the plastic part and the mold is held closed (col. 3, lines 34-37).

Lutz discloses a method for in-mold coating an uncoated golf ball with a coating that includes the steps of (1) forming a coating composition; (2) forming an uncoated golf ball between at least two separable mold dies which form a mold cavity therebetween by molding the uncoated golf ball within the cavity until the golf ball reaches a condition where its surface has cured to the point that it is receptive to the application of a coating composition, i.e., wherein the coating material will not substantially penetrate the outer surface but will bond therewith; (3) introducing the coating composition into the mold cavity at a pressure in excess of what the positive mold cavity pressure was immediately prior to introduction while maintaining the dies in a pressurized, closed position whereby the coating composition is forced over the surface of the uncoated golf ball; and (4) curing the coated, formed golf ball (col. 7, lines 44-62).

Shima, with reference to Figure 4, discloses closing a female mold 10 and first mold half 12 by putting them together (col. 3, lines 59-60). Molten thermoplastic resin is then injected into a cavity 11 created between the mold halves 10,12 to form a preliminary molding of a ski body 1 (col. 4, lines 7-12). The set of molds is then opened by removing the first mold half 12, and the female mold 10 with the molded ski body 1 is shifted to the position of a secondary mold half 17 (col. 4, lines 20-23). Molten thermoplastic resin is then injected into the space between the ski body 1 and the mold surface 19 of the second mold half 17, thereby forming a sole plate 6 of the ski (col. 4, lines 67-68; col. 5, lines 1-2).

35 U.S.C. § 112

Claims 17-28 have been carefully amended to overcome the 35 U.S.C. § 112 rejections.

Abstract

The abstract has been amended to conform with MPEP § 608.01(b). Specifically, the abstract has been amended to be a single paragraph.

**The Claims Distinguish Patentably
Over the Reference(s) of Record**

Claim 17, as amended, calls for the step of forming a substrate between a pair of mold halves that are a substantially fixed distance relative to one another and coating said substrate between said pair of mold halves, which remain said fixed distance relative to one another, with an in-mold coating. None of the references of record disclose or fairly suggest these steps.

Specifically, as discussed above in the preceding section, Hendry and Shima disclose molding processes wherein a substrate is formed between a first mold half and a second mold half and the substrate is coated between said first mold half and a new, third mold half. Thus, neither Hendry nor Shima disclose coating a substrate between the same pair of mold halves that were used to form a substrate. Oda and Uchiyama et al. both disclose processes wherein a substrate is formed between a pair of mold halves and is coated between the same pair of mold halves. However, in both of these references, a space is created between the mold halves by moving the mold halves relative to one another after the formation of the substrate and prior to the introduction of the in-mold coating. Thus, in neither Oda or Uchiyama et al. is a process disclosed or fairly suggested wherein the mold halves that are a substantially fixed distance relative to one another during the formation of the substrate remain the same fixed distance relative to one another during the step of coating the substrate with an in-mold coating.

Lastly, Lutz does not disclose or fairly suggest the process called for in claim 17 because Lutz fails to teach the step of coating a substrate between a pair of mold

halves which remain a fixed distance relative to one another (the same fixed distance relative to one another between which a substrate was formed). While Lutz does not explicitly state that the mold halves are moved relative to one another, Lutz does not mention anything concerning maintaining the mold halves a fixed distance relative to one another for both the steps of forming a substrate and coating the substrate.

Additionally, claim 17 calls for a substrate area of increased dimensional thickness to be preferentially coated relative to a substrate area without increased dimension thickness. The Examiner asserts that Figure 5 of Hendry discloses such an arrangement. Applicant respectfully disagrees. In particular, with reference to Figure 5 of Hendry, the raised element P which the Examiner asserts redirects the flow of injected material toward the perimeter of the substrate does not teach an area of increased dimension thickness that is preferentially coated. In other words, the raised section P is not coated in Hendry and therefore cannot be preferentially coated.

Similarly, it is unclear how the Examiner is asserting that an area of increased dimensional thickness in Oda is preferentially coated. More specifically, with reference to Figures 1-5 of Oda, the coating material 15 appears to be of uniform thickness across the molded part Y. Likewise, with reference to Figure 1C of Uchiyama et al., the coating 30 appears to be of uniform thickness across the molded part and, thus, there is not preferential coating of an area of increased dimensional thickness. Shima suffers the same deficiency and, therefore, cannot anticipate claim 17. More specifically, Shima discloses a molded part having areas of increased dimensional thickness but there is no disclosure of areas of increased dimensional thickness being preferentially coated. Rather, the areas of increased dimensional thickness in Shima have less coating and are therefore less coated than the areas that do not have increased dimensional thickness (See Fig. 7).

Lastly, the Examiner asserts that Lutz teaches the claimed process and references column 7, lines 44-62 of Lutz. Further, the Examiner asserts that flat areas between golf ball dimples constitute areas of a substrate having increased dimensional thickness. The Examiner further asserts that a golf ball having a dimpled surface constitutes a substrate having areas of varying thickness. While Applicants do not

necessarily agree with the Examiner's characterization of and conclusions drawn about a golf ball, Applicants need not challenge the Examiner's characterizations and conclusions. Rather, Applicants assert that there is no teaching in Lutz of the invention called for in claim 17 wherein an in-mold coating preferentially coats an area of increased dimensional thickness relative to a substrate area without increased dimensional thickness. While Lutz may or may not disclose a substrate having areas of increased dimensional thickness and areas of less dimensional thickness, there is no disclosure of the areas of increased dimensional thickness being preferentially coated.

Accordingly, for at least these reasons, it is asserted that claim 17 and claims 18-22 and 29-30 dependent therefrom distinguish patentably over the references of record.

Claim 23, as amended, calls for molding a substrate between at least two separable mold halves which form a closed mold cavity therebetween at a temperature and a clamp pressure sufficient to form the substrate. Further, claim 23 calls for injecting a suitable amount of coating into the mold cavity on a surface of the substrate while maintaining the mold members at said clamp pressure whereby said coating covers portions of areas of varying thickness that are relatively thicker and have a greater compressibility sufficient to accept said coating to a greater degree than portions of said areas of varying thickness that are relatively thinner or have a compressibility insufficient to accept said coating. It is asserted that none of the references of record teach nor fairly disclose the process called for in claim 23.

More specifically, none of the references of record teach molding a substrate between two mold members in a closed mold cavity where the clamp pressure is sufficient to form the substrate and a suitable amount of coating is injected into the mold cavity while the mold members are maintained at the clamp pressure. Further, none of the references of record, as discussed in reference to claim 17 above, disclose coating portions of the substrate that are relatively thicker to a greater degree than portions of the substrate that are relatively thinner or have the compressibility insufficient to accept said coating. For at least these reasons, it is submitted that claim 23 and claims 24-28 dependent therefrom distinguish patentably over the references of record.

New **claim 31** calls for a method of molding a substrate wherein a closed cavity defined between at least two mold members that remain a substantially fixed distance relative to one another is provided such that the closed cavity has a substantially fixed volume. The method further calls for the steps of injecting a molten resin into the closed cavity having said substantially fixed volume and injecting an in-mold coating into said closed cavity having said substantially fixed volume. It is submitted that none of the references of record disclose such an arrangement.

As discussed in reference to claim 17, the references of record disclose (1) molding a substrate between a first and a second mold half and injecting an in-mold coating on said substrate between said first mold half and a third mold half; (2) forming a substrate between a pair of mold halves, moving the mold halves apart from one another creating a new cavity volume and injecting an in-mold coating into the newly created space in the larger mold cavity; and/or (3) creating a substrate between a pair of mold halves and injecting an in-mold coating into the mold halves without any discussion of whether the mold halves are maintained in a fixed position relative to one another. Thus, there is no disclosure or fair suggestion of providing a closed cavity having a substantially fixed volume for both steps of injecting a resin and injecting an in-mold coating. Accordingly, it is submitted that new claim 31 and new claims 32-33 dependent therefrom distinguish patentably over the references of record.

New **claim 34** calls for a method including the steps of molding an article in a mold cavity having a substantially fixed volume and in-mold coating the article with an in-mold coating including the sub-steps of: injecting the in-mold coating into the mold cavity having the substantially fixed volume and using thicker areas of the article that are relatively more compressible to direct flow of the in-mold coating on the article wherein the thicker areas compress an amount sufficient to allow the in-mold coating to pass thereon. As discussed above in the preceding paragraphs, none of the references of record disclose such a method. Accordingly, it is submitted that claim 34 and claims 35-38 dependent therefrom distinguish patentably over the references of record.

New **claim 39** calls for a method of in-mold coating including the steps of injecting a molten resin into a molten mold cavity having a fixed volume, injecting an in-

mold coating into the mold cavity and directing flow of the in-mold coating injected onto a show surface with at least one area of increased dimensional thickness. For at least the reasons discussed in reference to the other pending independent claims, it is submitted that new claim 39 and claim 40 dependent therefrom distinguish patentably over the references of record.

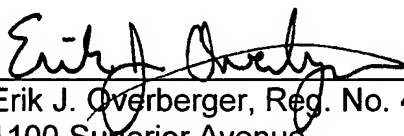
CONCLUSION

All formal and informal matters having been addressed, it is respectfully submitted that this application is in condition for allowance. It is believed that the proposed claim changes clearly place the application in condition for allowance, defining over any fair teaching attributable to the references. The claims do not raise new issues requiring further searching or consideration since the claimed subject matter is merely restated in a manner that is fully supported by the specification as filed. Alternatively, if the Examiner is of the view that the proposed amendments do not place the application in clear condition for allowance, it is requested that he telephone the undersigned for purposes of conducting a telephone interview to resolve any outstanding differences. Accordingly, an early notice of allowance is earnestly solicited.

Respectfully submitted,

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